

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001024

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ⁷: G01S 5/02; H04B 7/185

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPAT, USPTO, Esp@cenet: attitude, modulation, doppler, dimension, spatial, cyclic, spatial, shift key and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, A	US 6754584B2 (PINTO et al), 22 June 2004 whole document	
A	US 6598009B2 (YANG), 22 July 2003 whole document	
A	US 6593879B1 (CAMPBELL), 15 July 2003 whole document	
A	US 6088653A (SHEIKH et al), 11 July 2000 whole document	



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
12 October 2004Date of mailing of the international search report
20 OCT 2004

Name and mailing address of the ISA/AU

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: III Observations where unity of invention is lacking:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-12, 15-18 are directed *"a method for determining attitude"* comprising of following integers:

- (i) transmitting signals modulated with a three-dimensional Doppler signature,
- (ii) modulating a receiver means with a complementary three-dimensional signature, and
- (iii) interpreting the received signals to determine the attitude of said receiving means.

It is considered that "determining attitude of receiving means" comprises a first "special technical feature".

2. Claims 13-14 are directed to *"a device/ method for creating a signal"*, the device comprising of following integers:

- (i) a plurality of spatially distributed antenna elements,
- (ii) each antenna element being connected to a variable gain means,
- (iii) each variable gain means being responsive to a control means, and
- (iv) all the variable gain means connected to a common transmission or reception means.

It is considered that "creating a signal that manifests a three-dimensional synthesised phase centre movement" comprises a second special technical feature.

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2004/001024

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
US 6754584	EP 1421332	US 2002165669	WO 2002/068908
US 6598009	US 2002169578		
US 6593879			
US 6088653	CA 2273158	EP 0948750	EP 1154281
	WO 1998/029757		
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.			
END OF ANNEX			

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001024**Box No. II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Refer to attached supplemental sheet...

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.